

Transforming MACCS

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Transforming MACCS
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"Whenever aircraft fail to arrive in response to a request from the ground-whatever the reason, the reaction is almost certain to be one of irritation."¹ This quote addresses only one function of Marine aviation performed by the Marine Air Command and Control System (MACCS), however, it can be applied to everything the MACCS does. Whether directly or indirectly, the end result must be that troops on the ground are quickly and sufficiently supported. The MACCS is designed to facilitate the coordination and integration of aviation into the ground scheme of maneuver. In the next few years, the Common Aviation Command and Control System (CAC2S) will be fielded to the MACCS. It is an upgrading of equipment, and it will replace the different systems currently in use with common equipment and software throughout the MACCS. Nevertheless, technology alone cannot transform an organization; it is a tool. In order to remain pertinent into the 21st century, the MACCS must transform its organization.

BRIEF HISTORY

The MACCS did not spring up overnight. To read the history of the MACCS is similar to reading the Bible; this agency begot this agency which begot this agency and so on. Its point is often lost on the reader. What is important is that as new

¹ Benjamin Franklin Cooling, "Case Studies in the Development of Close Air Support" p538

equipment, capabilities, and enemies emerged, Marines came up with new solutions, tactics, techniques, and procedures on how to best utilize what they had to defeat the enemy. As early as World War II, Marines and Soldiers were devising ways to integrate aircraft into the ground scheme of maneuver through close air support. Post World War II, the Marine Corps recognized a need for air traffic control units as radar became more common. It also knew that there would be a need for aircraft to fulfill air to air interdiction missions and that radar would become a tool in the fulfillment of that mission. This was also the first time that the Marine Corps had dedicated units for the purpose of command and control for aviation. The war in Korea gave the Marine Corps an opportunity to test its theories and further refine them. The Vietnam War changed little for command and control, however the Marine Corps made advances in regards to close air support and the use of radar on both the ground and in the aircraft. Post Operation Desert Storm saw a fielding of new equipment to many MACCS agencies. However, the problem remained that not all these systems could communicate with one another.

CORE COMPETENCIES OF MARINE AVIATION

Marine aviation has a structure of six core functions. They are offensive air support (OAS), assault support (AS), anti-air warfare (AAW), air reconnaissance (AR), electronic warfare (EW),

and command and control (C2). Those six functions can be further subcategorized by tasks, as illustrated in figure 1.

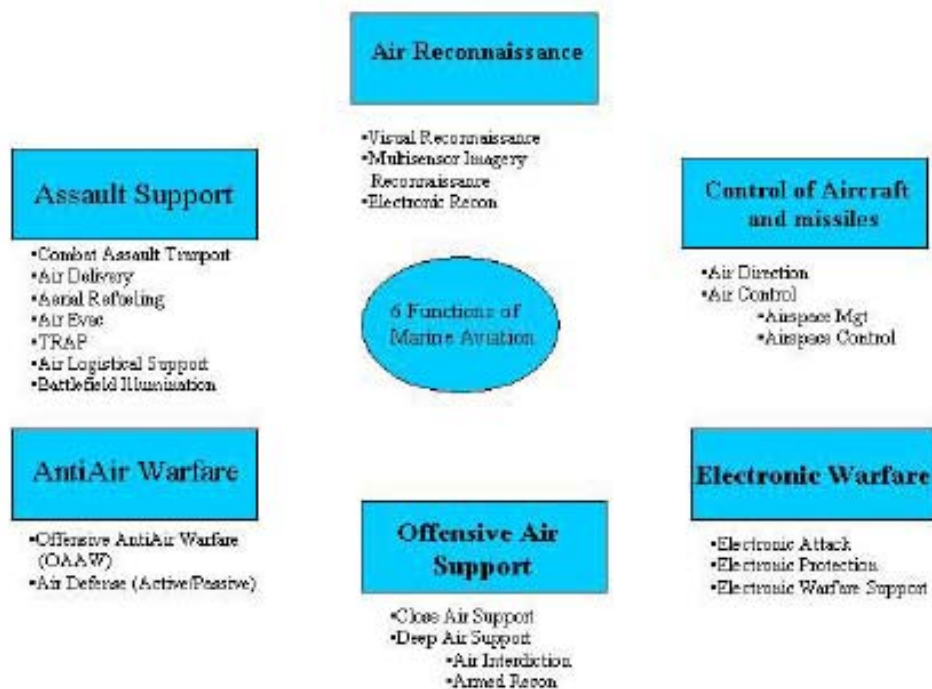


Figure 1. Six functions of Marine Aviation²

The MACCS is how the Marine Corps executes control of aircraft and missiles, and the other five functions are directly supported.

CURRENT ORGANIZATION

"The responsibility for installing, operating and maintaining these... agencies is the primary mission of the Marine Air Control Group (MACG). This approach is in contrast to the

² MCWP 3-2 p2-2

way in which COCs are installed, maintained, and operated in support of other MAGTF elements.”³ Under the MACG, there are six units.

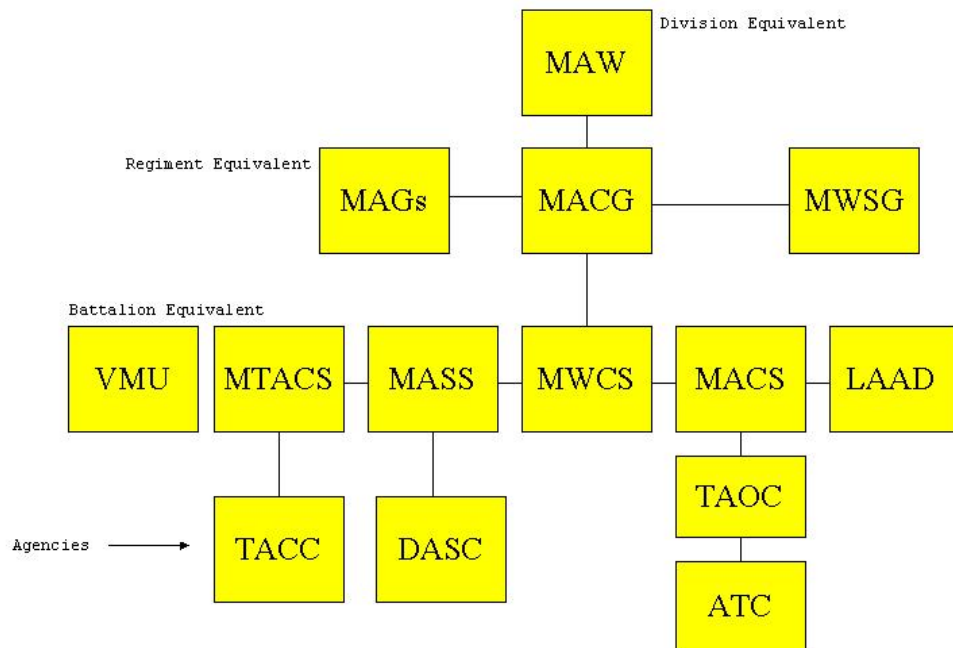


Figure 2. Doctrinal Organization of the MACG

- **MARINE TACTICAL AIR COMMAND SQUADRON (MTACS):** This responsible for fielding the Tactical Air Command Center (TACC). The TACC provides the operational command post from which the ACE commander and his staff plan, coordinate and execute all MAGTF air operations.
- **MARINE AIR CONTROL SQUADRON (MACS):** This component is responsible for fielding Tactical Air Operations Center (TAOC). The TAOC provides the ACE with the capability to detect and identify hostile aircraft and missiles, control

³ MCWP 3-40.1 p7-7

the interception of hostile aircraft and missiles, and provide tactical routing to friendly aircraft. The TAOC uses the AN/TPS-59 radar system to accomplish its mission. The MACS also fields Air Traffic Control (ATC) detachments to provide terminal control for airfields and other forward operating bases (FOBs).

- **MARINE AIR SUPPORT SQUADRON (MASS):** Responsible for fielding the Direct Air Support Center (DASC). The DASC processes immediate requests for air support, coordinates aircraft employment with other supporting arms, manages terminal control of aircraft, and provides procedural control (i.e. no radar) of assigned aircraft, unmanned aerial vehicles, and itinerant aircraft transiting through is assigned area. While an air wing unit, the DASC will normally co-locate with the senior Fire Support Coordination Center (FSCC) in order to facilitate the integration of aviation into the ground scheme of maneuver and de-conflict with other supporting arms.
- **MARINE WING COMMUNICATION SQUADRON (MWCS):** This unit is responsible for providing communication support not organic to other squadrons.
- **LOW-ALTITUDE AIR DEFENSE BATTALION (LAAD):** This unit is responsible for providing air defense. They are normally

employed to protect airfields, ports, and other high value targets.⁴

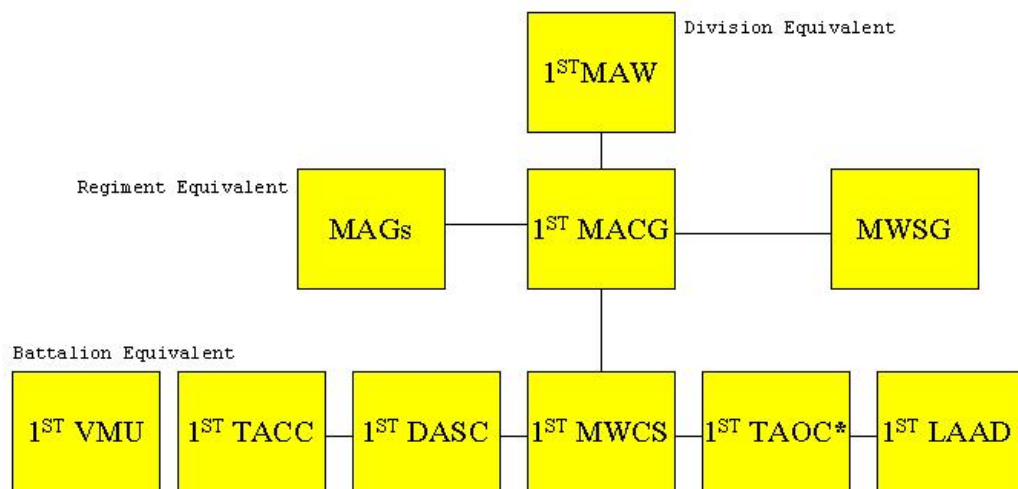
RECOMMENDATION FOR FUTURE ORGANIZATION

When CAC2S is fielded, all units within the MACG will have the same equipment with the same capabilities. One benefit of this is redundancy. That is, if squadron A has a broken part and no replacement parts, it can get that part from squadron B, C, or D. Another benefit of CAC2S will be that the DASC (or any agency for that matter) will be able to receive the radar picture without having to be tied to the radar itself. While the AN/TPS-59 is a very capable platform, it is also extremely cumbersome. It has a significantly large logistics footprint and once set-up, will rarely move. The DASC being light & mobile in order to move with the infantry will be able to maintain better situational awareness of aircraft by receiving the radar picture. The same is true for LAAD and someday squadron ready rooms may be able to track a mission as its happening. Therefore, when CAC2S is fielded, there will be an opportunity to reorganize for tomorrows fight.

In order to field CAC2S to all units, train Marines to use it, and make refinements, the recommendation is to modify the current organization for the first five years and then re-evaluate how best to implement it thereafter. MCWP 3-40.1 states

⁴ Information for all MACG units and agencies taken from MCWP 3-40.1 p7-7 to

that "The responsibility for installing, operating and maintaining these... agencies is the primary mission of the Marine Air Control Group (MACG). **This approach is in contrast to the way in which COCs are installed, maintained and operated in support of other MAGTF elements.**" The confusion lies in the naming conventions. 1st Marine Division in garrison is not called something else when deployed to the field. It is confusing then that the MACG units are called two different things. Figure 3 illustrates the recommended organization.



*ATC mission remains with TAOC

Figure 3. Proposed Organization

While not a radical recommendation, it serves some useful purposes. First, it lessens the confusion for someone outside the MACCS. Many Marines struggle with the concept of the MACCS, and having different naming conventions than the rest of the Marine Corps doesn't help. Second, CAC2S will not be fielded overnight. It will take place over a few years. During that time, initial units can troubleshoot the equipment and develop standard operating procedures (SOPs) which later units can use as a base. Third, there is going to be initial opposition from people who refuse to change and from those who are incapable of change. The Marine Corps will need to purge people as they move on to other assignments or get out of the Marine Corps. Applying a mild change in the beginning, making some assessments, and then making further changes based on those assessments is the best way to institute this transformation.

POSSIBLE PROBLEM WITH CAC2S

One of the promises of CAC2S is that with same equipment and capabilities, one reduces the number of MOSs required to operate it. That is true to an extent because the number of differing MOSs for technicians can be reduced. However, can CAC2S deliver on one MOS for officers? That is, one MOS for a MACCS officer who is proficient at all missions within the MACG. It takes at least two to three years for a new lieutenant to become proficient in his or her particular field. Most are

knowledgeable in their field but cannot be considered true MACCS officers. The time, training, and money needed to create a MACCS 2nd Lieutenant will be substantial. Perhaps the added cost can be offset if the total number of officers currently within the MACG is less than the total of MACCS officers that will be needed in the future.

CONCLUSION

With the fielding of CAC2S, the MACCS has an opportunity to transform itself for the battles of the twenty-first century. It must be done with a "single battle concept." That is, all levels, from general to private, must have the same goals and more importantly, the will. Transformation is not an overnight process. It takes years to accomplish through the hard work and dedication of thousands of professionals. Transformation is also not a guarantee; it is an opportunity to be seized.

Bibliography

HQMC, Marine Corps Concepts and Programs 2004.

Joint Chiefs of Staff, Joint Vision 2020.

Cooling, Benjamin Franklin, Case Studies in the Development of Close Air Support. Office of Air Force History, USAF 1990.

Murray, Williamson and Millet, Allan R., Military Innovation in the Interwar Period. Cambridge Univ. Press 1996.

Williams, Susan Mercer and Mirande, Frank J., When the Chips Are Down... A Historical sketch of Close Air Support. Lockheed 1988.

Twining, M.B., An Evaluation of Air Operations Affecting the USMC in World War II. 31 December 1945.

MCWP 3-40.1 Marine Air-Ground Task force Command and Control.

MCWP 3-25 Control of Aircraft and Missiles.

MCWP 3-25.3 Marine Air Command and Control System Handbook

MCWP 3-2 Aviation Operations.